UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF TEXAS
MIDLAND-ODESSA DIVISION

FINALROD IP, LLC, and R2R AND D, LLC d/b/a SUPEROD, *Plaintiffs/Counterclaim Defendants* v. JOHN CRANE, INC., JOHN CRANE PRODUCTION SOLUTIONS, INC. and ENDURANCE LIFT SOLUTIONS INC., *Defendants/Counterclaim Plaintiffs*.	Case No.: 15-CV-00097-DC Judge David Counts

DEFENDANTS' MOTION FOR SUMMARY JUDGMENT THAT THE ASSERTED CLAIMS OF THE '951 AND '757 PATENTS ARE INVALID FOR INDEFINITENESS

I. INTRODUCTION

The patent statute imposes a "definiteness" requirement, which requires a patentee to "***particularly point[] out and distinctly claim[]*** the subject matter which the inventor . . . regards as the invention." 35 U.S.C. §112 ¶ 2. The Supreme Court recently mandated in its Nautilus decision that, under this requirement, a "patent ***is invalid for indefiniteness*** if its claims, read in light of the specification . . . and the prosecution history, ***fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention***." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014) (emphasis added). The Supreme Court explained that patent claims must be precise enough to give clear notice to "the public of what is still open to them" so as to eliminate any "zone of uncertainty" as to the claim scope. *Id.* at 909-910 (citation omitted).

Plaintiffs' '951 and '757 patents fail to satisfy the Supreme Court's ruling in Nautilus. Every asserted claim of Plaintiffs' '951 and '757 patents requires that sucker rod end fittings, when used, experience "compressive forces" that are greater at the closed end of the end fitting and lesser at the open end. Plaintiffs' patents provide no information about how to identify and measure those "compressive forces" to ascertain where they are greatest. Indeed, the indisputable facts show that there is no established method in the industry for measuring "compressive forces." Rather, a skilled artisan can choose between numerous techniques to measure "compressive forces," including different kinds of tests, different parameters for those tests, and different approaches to analyzing those parameters. The inventor, Russell Rutledge, even admitted that he developed his own personal method that was not used by anyone else in the field. Yet, the '951 and '757 patents do not disclose the inventor's methodology. In fact, the patents fail to provide the slightest explanation about how someone must choose between the different available measurement techniques, leaving those in the art guessing as to the meaning of the claims.

This is a fatal deficiency. Plaintiffs' '951 and '757 patents fail the Supreme Court's *Nautilus* test because they do not explain, with reasonable certainty, what is covered by the patents and--by extension--what is outside the scope of the patents. Competitors can never know if they are infringing Plaintiffs' patents, because there is no way for a skilled artisan to differentiate, with reasonable certainty, between patented and unpatented end fittings. Accordingly, under the Supreme Court's *Nautilus* decision, the asserted claims of the '951 and '757 patents are indefinite as a matter of law, and summary judgment of invalidity is appropriate.

II. STATEMENT OF FACTS

A. Overview of the Patents and Asserted Claims

The '951 and '757 patents are in the same patent family and are generally directed to a particular type of sucker rod end fitting used in oil wells. Ex. A ('951 Patent); Ex. B ('757 Patent). Oil wells often employ a pump to force the oil from the well. *See, e.g.*, Ex. B ('757 Patent) at 2:15-22. Figure 1 of the '757 Patent (shown below) illustrates an exemplary pumping system. *Id.* at 2:52; Fig. 1. The pumping system (20) includes a pump drive (22) that is connected to a down hole pump (26) through a sucker rod string (24). *Id.* at 2:52-56. The sucker rod string is comprised of a series of connected sucker rods that extends from the downhole pump to the pumping system. *Id.* at 2:56-60. These sucker rod strings are connected to one another using end fittings. *Id.* at 3:8-10.

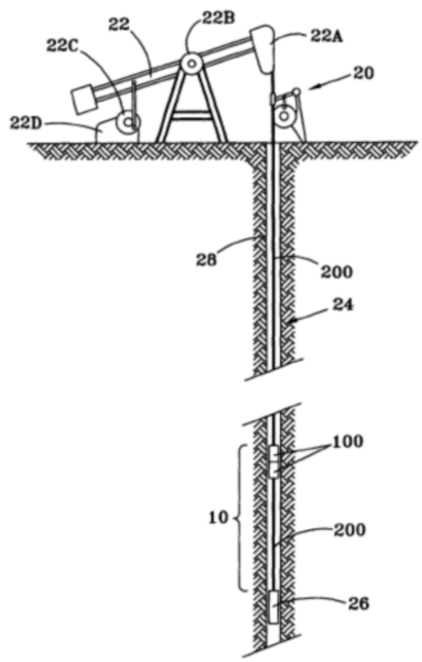


FIG. 1

The ‘757 and ‘951 patents both describe sucker rod end fittings having a wedge system that receives the fiberglass sucker rod. *See, e.g.*, Ex. A (‘951 Patent) at 2:59-65; Ex. B (‘757 Patent) at 3:10-17. The below annotated figures illustrate end fittings disclosed in the ‘757 patent and the ‘951 patent. As shown, a fiberglass sucker rod (brown) is inserted into the steel end fitting (blue), and epoxy/adhesive (yellow) fills in the wedge-shaped cavities between the sucker rod and the end fitting.

Fig. 2 of '757 Patent (coloring added, numbering omitted)

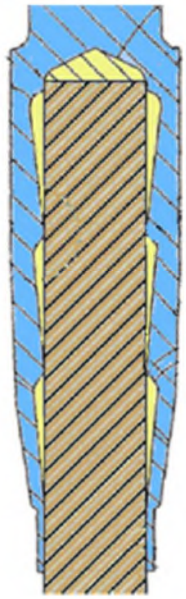
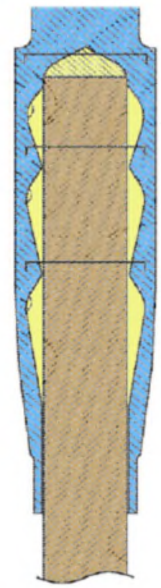


Fig. 10 of '951 Patent (coloring added, numbering omitted)



The asserted claims of both patents require that the end fittings function in a particular manner: *i.e.* that, during use, the "compressive forces" must be greatest at the wedge closest to the closed end and smallest at the wedge portion at the open end.[1] More specifically, the asserted '757 claims require that "a force differential along the wedge system is created having compressive forces greater at the closed end of the fitting and decreasing toward the open end of the fitting" or that "compressive forces create a force differential along the wedge system greater at the closed end of the fitting and decreasing toward the open end of the fitting." *See* Ex. B ('757 Patent) at claims 1, 15, 32, 49 and 77. Likewise, the asserted '951 claims require that the "compressive forces [applied to/in the sucker rod] at the closed end of the body exceed compressive forces [in

[1] Superod has asserted claims 7, 8, 14, 15, 17, 21, 22, 35 and 47 of the '951 patent and claims 1, 2, 7, 8, 9, 11, 13, 15, 16, 32-36, 49, 53, 54, 55, 56, 57, and 77 of the '757 patent.

the sucker rod] at the open end of the body." *See* Ex. A ('951 Patent) at claims 7, 14 and 21. Claim 1 of the '757 Patent and Claim 7 of the '951 patent are representative, and read as follows:

Claim 1 of the 757 Patent. An end fitting for a sucker rod comprising:

> an exterior surface, a closed end, an open end, and an interior surface,
>
> the interior surface comprising a wedge system defining a cavity, wherein the wedge system comprises at least one wedge shaped portion having an arcuate apogee, a perigee, a leading edge and a trailing edge, each apogee forming an arcuate perimeter of equal dimension within the cavity that is the narrowest part of the cavity associated with each wedge shaped portion, each perigee forming a perimeter of equal dimension within the cavity that is the widest part of the cavity associated with each wedge shaped portion such that the leading edge is longer than the trailing edge with the leading edge facing the open end and the trailing edge facing the closed end with respect to each wedge shaped portion, such that ***a force differential along the wedge system is created having compressive forces greater at the closed end of the fitting and decreasing toward the open end of the fitting.***

Claim 7 of the '951 Patent. An end fitting for a sucker rod, the end fitting comprising:

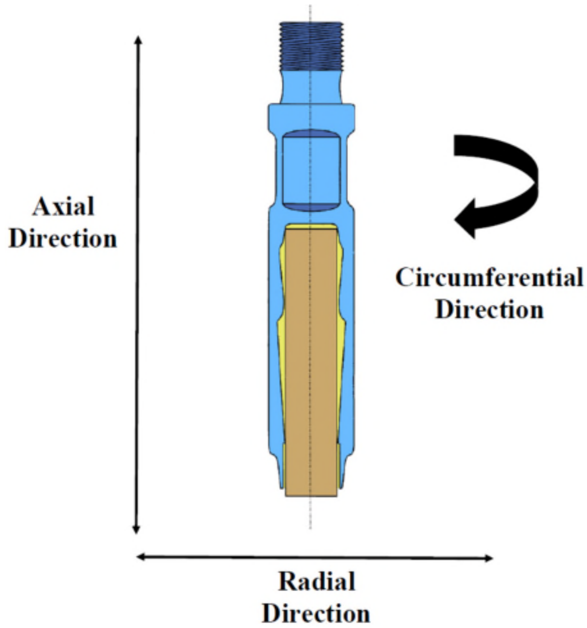
> a body having an interior, a closed end, an open end, and a wedge system formed in the interior, wherein the wedge system comprises:
>
> an outer wedge portion formed in the interior proximate to the open end, wherein the outer wedge portion comprises a first leading edge, a first trailing edge, and a first angle between the first leading edge and the first trailing edge, wherein the first leading edge faces the open end and the first trailing edge faces the closed end, and wherein the length of the first leading edge, the length of the first trailing edge, and the size of the first angle define a first distribution of force in the outer wedge portion;
>
> an intermediate wedge portion formed in the interior between the outer wedge portion and the closed end, wherein the intermediate wedge portion comprises a second leading edge, a second trailing edge, and a second angle between the second leading edge and the second trailing edge, wherein the second leading edge faces the open end and the second trailing edge faces the closed end, and wherein the length of the second leading edge, the length of the second trailing edge, and the size of the second angle define a second distribution of force in the intermediate wedge portion; and
>
> an inner wedge portion formed in the interior between the intermediate wedge portion and the closed end, proximate to the closed end, wherein the inner wedge portion comprises a third leading edge, a third trailing edge, and a third angle first angle between the third leading edge and the third trailing edge, wherein the third leading edge faces the open end and the third trailing edge faces the closed end, and

> wherein the length of the third leading edge, the length of the third trailing edge, and the size of the third angle define a third distribution of force in the inner wedge portion,
>
> wherein the first trailing edge, the second trailing edge, and the third trailing edge differ in length such that during use a compressive load applied to the sucker rod at the inner wedge portion is greater than a compressive load applied to the sucker rod at the intermediate wedge portion, and the compressive load applied to the sucker rod at the intermediate wedge portion is greater than a compressive load applied to the sucker rod at the outer wedge portion, such that ***compressive forces applied to the sucker rod at the closed end of the body exceed compressive forces at the open end of the body***.

To know whether an end fitting practices the claims, it is necessary to measure and compare the "compressive forces" between wedge portions of the end fitting. But neither the claims nor the specifications provide guidance on how to identify the relevant "compressive forces" or how to measure them.

B. The Claims Fail to Define Any Method For Measuring and Comparing "Compressive Forces" Between Wedges in an End Fitting

When a string of sucker rods is used in conjunction with a reciprocating pump, the reciprocating motion of the pump and the sideways movement of the sucker rod string causes various forces to be transmitted between the steel end fittings, adhesive wedges, and the fiberglass sucker rods. Ex. C, (Crichlow Invalidity Report) at ¶¶ 47-49, 80-96. As a result, sucker rods are subjected to a complex interaction of forces. *Id.* As shown below, in the context of sucker rod end fittings, compressive forces occur in axial, radial, and circumferential directions. *Id.* at ¶¶ 84-88; *see also* Ex. A ('951 patent) at 7:36-64.



There is no single, established method for measuring and comparing "compressive forces" between wedges of an end fitting, and neither Plaintiffs nor its expert have suggested otherwise. For instance, when assessing the impact of forces on a particular end fitting design, the record reflects that a skilled artisan might test a physical end fitting (which the inventor claims to have done in developing his invention (*see infra* at Section II.C)) or rely on the results of computer modeling software that simulates the real life operation of the end fitting (which the parties' experts have done for purposes of this litigation).[2] *See* Ex. D (Hetmaniak 8/10/18 Infringement Report) at p. 21; Ex. E (Hetmaniak 2/22/19 S300 Infringement Report) at pp. 18-27; Ex. F (Crichlow Non-Infringement Report) at ¶¶ 77-108.

<u>Computer Modeling Parameters Vary</u>: An artisan choosing computer modeling would also have to choose what parameters to examine in the computer model. *See, e.g.,* Ex. F (Crichlow

[2] Although both parties' experts rely upon results from computer modeling techniques, they differ significantly in their approach with regards to what parameters should be measured and how to measure them.

Non-Infringement Report) at ¶¶ 80-98. As discussed above, an end fitting is affected by compressive forces in each of the axial, radial and circumferential directions. Thus, a skilled artisan may examine: (i) the impact of a single type of compressive force (which, as noted above, may be a radial, axial or circumferential) on each wedge, (ii) the overall stresses caused by the combination of compressive forces on each wedge, or (iii) the amount of deflection on each wedge (i.e. the degree to which the wedge is displaced as a result of the forces). *Id; see also* Ex. D (Hetmaniak 8/10/18 Infringement Report) at pp. 12, 21 (focusing analysis on amount of "deflection" and/or "deformation"); Ex. E (Hetmaniak 2/22/19 S300 Infringement Report) at pp. 22-27 (focusing analysis on "nodal" forces).

<u>Analysis Approaches Vary</u>: Even after selecting a parameter, a skilled artisan must further choose how to analyze that parameter in order to assess which wedge experiences greater forces. For example, Dr. Crichlow states that the appropriate approach is to calculate and compare the ***total*** forces on each wedge. Ex. G (Crichlow 2/22/19 Suppl. Invalidity Report) at ¶¶ 4-8. Plaintiffs expert Mr. Hetmaniak acknowledges that Dr. Crichlow's approach is "one way of examining forces in FEA results." *See* Ex. H (Hetmaniak 12/3/18 Suppl. Infringement Report) at p. 5. However, Mr. Hetmaniak then argues that one should instead use a different approach by calculating and comparing the ***average*** forces across each wedge. *Id.* at pp. 5-10.

<u>Different Parameters And Approaches Create Different Outcomes</u>: There is no question that the choice of parameters and approaches affects the conclusion as to where, within the end fitting, the "compressive forces" are greatest. *See, e.g.*, Ex. F (Crichlow Non-Infringement Report) at ¶¶ 81, 92-95, 97 (explaining differences between forces, stresses and deflection). The record reflects that, for the same end fitting, one set of forces or stresses may be greatest at the closed end, while another set of forces or stresses is greatest at the open end. *Compare* Ex. E (Hetmaniak

2/22/19 S300 Infringement Report) at pp. 23-25 (stating that "average nodal forces" for an end fitting are greater at the closed end) with Ex. I (Crichlow 3/8/19 Suppl. Non-Infringement Report at ¶ 53 (reporting that stresses for the same end fitting are lowest at the closed end). Likewise, the choice of whether to focus on average or total forces also leads to different conclusions as to where in an end fitting "compressive forces" are the greatest. *Compare* Ex. H (Hetmaniak 12/3/18 Suppl. Infringement Report) at pp. 9-10 (reporting that average radial compressive forces for the Series 200 end fitting are greatest at the closed end) with Ex. F (Crichlow Non-Infringement Report) at ¶¶ 88-90 (reporting that total radial compressive forces for the Series 200 end fitting are lowest at the closed end). The specifications of the '915 and '757 patents do not guide one skilled in the art as to which parameters should be used to measure "compressive forces," nor as to which analysis approach should be used when comparing the "compressive forces" between wedges.

C. The Inventor Failed to Disclose His Method for Measuring and Comparing "Compressive Forces"

Rutledge was asked how he ascertained the compressive forces on a particular wedge for purposes of his invention. He conceded that he did not use available computer modeling techniques; nor did he use any established scientific methodology. Rather, he testified that he used a so-called "poor boy FEA," where he merely eye-balled a used end fitting and compared the color of different wedges.

> Q. Is there any way that you're aware of that you could actually measure the forces distributed by a particular wedge?
>
> A. I can tell you how I do it.
>
> Q. Sure.
>
> A. Would you like for me to do that?
>
> Q. That would be great, thanks.

> A. I have what I call a poor boy FEA. And I will take a rod, put it in a pull tester, cycle it at a predetermined load, then take it out, cut the end fitting off, split it, and look at the color differential in wedges.
>
> Q. What does the color differential tell you?
>
> A. Well, when you compress that rod after it's been loaded, you will see a lightning in the glass versus its normal color, which is darker before it's loaded.
>
> Q. And what does the light -- lighter color of the glass tell you?
>
> A. It tells me that there's pressure being applied to the rod.

Ex. J (Rutledge Dep. 6/28/18) at 49:2-22. Notably, however, Mr. Rutledge's "poor boy FEA" approach is <u>not</u> <u>described</u> in the patents at issue, and he claims others do not use it.

> Q. The poor-boy FEA you just described, who created that methodology of a test?
>
> A. Me.
>
> * * *
>
> Q. Are you aware of any other manufacturers of end fittings who perform poor-boy FEA's?
>
> A. No, sir.
>
> Q. Have you seen any industry-wide literature describing poor -- the use of poor-boy FEA's?
>
> A. No, sir.
>
> Q. Have you seen any scientific literature describing poor-boy FEA's as acceptable tests of end fittings?
>
> A. No, sir.

Ex. K (Rutledge Dep. 1/22/19) at 29:5-21. Thus, not only do the '757 and '951 patents fail to teach a skilled artisan how to measure the claimed "compressive forces," but the inventor apparently uses a method that he is not aware of any other manufacturer (or person of ordinary

skill in the art) using. Rutledge also withheld the knowledge of his eye-balling approach from the public instead of disclosing such method in the ‘757 and ‘951 patents.

III. STANDARD OF REVIEW

A party is entitled to summary judgment if “there is no genuine issue as to any material fact and . . . the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(c). The moving party bears the burden of proving that no genuine issue of material fact exists. Fed. R. Civ. P. 56(a). When ruling on a motion for summary judgment, the court is required to view all inferences drawn from the factual record in the light most favorable to the nonmoving party. *Anderson v. Liberty Lobby, Inc*., 477 U.S. 242, 255 (1986). However “[o]nly disputes over facts that might affect the outcome of the suit under the governing law will properly preclude the entry of summary judgment. Factual disputes that are irrelevant or unnecessary will not be counted.” *Id.* at 248.

Further, patent invalidity based on “[i]ndefiniteness is a question of law”. *Teva Pharm. USA, Inc. v. Sandoz, Inc*., 789 F.3d 1335, 1341 (Fed. Cir. 2015). As such, Courts have explained that it is appropriate to address indefiniteness at the summary judgment stage. *Versata Software, Inc. v. Zoho Corp.,* 213 F. Supp. 3d 829, 834 (W.D. Tex. 2016) (“[I]t is both appropriate and necessary to address [Defendant’s] indefiniteness argument on summary judgment”); *cf. H-W Tech., L.C. v. Overstock.com, Inc.*, 758 F.3d 1329, 1331, 1336 (Fed. Cir. 2014) (affirming the district court's summary judgment holding that the asserted claim was invalid for indefiniteness).

IV. ARGUMENT

The law of patent definiteness stems from 35 U.S.C. § 112: "The specification shall conclude with one or more claims ***particularly pointing out and distinctly claiming*** the subject matter which the inventor or a joint inventor regards as the invention." § 112 (emphasis added).

In *Nautilus*, the Supreme Court explained that, under § 112, a "patent is invalid for indefiniteness if its claims, read in light of the specification . . . and the prosecution history, fail to inform, ***with reasonable certainty***, those skilled in the art about the scope of the invention." *Nautilus*, 572 U.S. at 901 (emphasis added). "It cannot be sufficient that a court can ascribe *some* meaning to a patent's claims." *Id.* at 911. The claims must be precise enough to give clear notice to "the public of what is still open to them," and eliminate any "zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims." *Id*. at 909-10 (citations omitted).[3]

When the claim limitations require measurement, the definiteness requirement is particularly strict. For example, in *Teva* the Federal Circuit considered claims covering a polypeptide product, which included a limitation on the "molecular weight" of the substance. *Teva*, 789 F.3d at 1338. The Court explained that "molecular weight" could be determined by three different types of measurements recognized in the art, each of which is calculated in a different manner and would yield different values. *Id*. at 1341. The claims and specification, however, did not convey what type of measurement was actually intended. *Id.* As a result, the Federal Circuit affirmed a finding of invalidity based on indefiniteness, holding that the patentee had failed to inform, with reasonable certainty, those skilled in the art about the scope of the invention. *Id*. at 1345. So too here.

Similarly, in *Dow Chem. Co. v. Nova Chems. Corp.*, 803 F.3d 620 (Fed. Cir. 2015), the Federal Circuit considered a claim limitation—"slope of strain hardening coefficient"—where the

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[3] The definiteness requirement stems from the quid pro quo provided to patentees. As the Supreme Court explained, Congress "enacted patent laws rewarding inventors with a limited monopoly. 'Th[at] monopoly is a property right,' and 'like any property right, its boundaries should be clear.'" *Nautilus*, 572 U.S. at 901-902 (citations omitted).

"slope of strain hardening" needed to calculate the coefficient could be measured using at least four different methods. *Id.* at 633-34. The Federal Circuit held that "[p]articularly . . . where different approaches to measurement are involved," "the patent and prosecution history must disclose a single known approach or establish that, where multiple known approaches exist, a person having ordinary skill in the art would know which approach to select." *Id.* at 630. That is because *Nautilus* requires that the claims "provide objective boundaries for those of skill in the art." *Id*. (citation omitted). As *Dow* explained, under *Nautilus* "the existence of multiple methods leading to different results without guidance in the patent or the prosecution history as to which method should be used renders the claims indefinite." *See id*. at 634. Applying these principles, the Federal Circuit found the claims indefinite because each of the multiple methods "may produce different results," and "[n]either the patent claims nor the specification . . . provide[d] any guidance as to which method should be used." *Id*. at 633-35.

Like the claims in *Nautilus, Dow* and *Teva*, the "compressive force" limitations in the '951 and '757 patents require measurements and are thus indefinite because: (i) the patents fail to teach any particular method for measuring and comparing "compressive forces" between wedges of an end fitting, (ii) different forces and different methodologies for measuring those forces exist in the art and would lead to different outcome-determinative results and (iii) Superod offers no evidence to overcome these fatal flaws.

A. The '951 and '757 Patents Fail to Teach Any Method for Measuring Compressive Forces, Accordingly, they are Invalid

Nothing in the claims or the specifications of the '951 and '757 patents discloses how to measure and compare compressive forces between wedge portions of an end fitting.

<u>A Measuring Approach Is Not Provided For In The Claims</u>: Looking first to the claims, the '757 Patent claims that "a force differential along the wedge system [is created having

compressive forces] greater at the closed end of the fitting and decreasing toward the open end of the fitting." *See* Ex B ('757 Patent) at claims 1, 15, 32, 49 and 77. Likewise, the asserted '951 claims that the "compressive forces [applied to/in the sucker rod] at the closed end of the body exceed compressive forces [in the sucker rod] at the open end of the body." *See* Ex. A ('951 Patent) at claims 7, 14 and 21. The claims, however, fail to indicate how to measure these claimed compressive forces so as to assess whether or not they are greater at the closed end as compared to the open end.

<u>A Measuring Approach Is Not Provided For In The Specifications</u>: The specifications of the patents fare no better than the claims. The patents repeatedly describe the need for the compressive forces to be greater at the closed end and progressively decrease towards the open end. *See* Ex. A ('951 Patent) at 3:30-33; 3:58-59; 4:7-8; 4:44-45; 5:34-35; 8:42-50; 9:1-24; 9:38-40; 9:48-49; 9:53-54; 9:59-60; 10:10-11; 10:58-64; 11:11-34; 11:49-50; 11:53-55; 11:59-66; 12:16-18; 13:3-10; 13:31-47; 13:67-14:2; 14:7-8; 14:12-15; 14:31-33; 15:22-30; 15:51-67; 16:15-17; 16:33-35; 17:10-18; 17:40-42; 18:22-33; 19:4-14; 19:54-65; 20:11-24; 21:13-22:21; 23:64-24:23; 25:62-64; 26:6-9; Ex. B ('757 Patent) at 3:31-58; 3:66-4:2; 4:6-7; 5:5-7; 7:42-8:2; 8:44-46; 9:16-25; 9:31-34. But every recitation is similarly generic and provides no explanation on how to measure and compare the forces from one wedge to another.

If anything, the patents' specifications only sow additional confusion as to how a skilled artisan should identify what parameters are to be measured. For instance, while the claims recite "compressive forces," the '757 specification states that "the unexpected results achieved by the present end fitting design distributes the *stresses* to the interior wedge first, and thereafter to the next successive wedges in the wedge system" whereas "[t]he prior art describes wedge systems that distribute the *stresses* along the entire length of the wedge system." Ex. B ('757 Patent) at

6:57-65 (emphasis added). There can be no credible dispute that stresses and forces are different, as the record reflects that for the same end fitting, stresses and forces can each be greatest at different parts of the end fitting. *Compare* Ex. H (Hetmaniak 12/3/18 Suppl. Infringement Report) at pp. 9-10 (reporting that average radial compressive forces for the Series 200 end fitting are greatest at the closed end) with Ex. F (Crichlow Non-Infringement Report) at ¶¶ 88-90 (reporting that total radial compressive forces for the Series 200 end fitting are lowest at the closed end), ¶¶ 81, 92-95 (explaining difference between stresses and forces). Consequently, the specification's reference to both forces and stresses only causes further uncertainty as to how a skilled artisan should assess claim scope.

<u>Inventor's Undisclosed Measurement Approach Is Not Known To The Public</u>: The inventor also did not disclose his approach for assessing "compressive forces." Mr. Rutledge testified that he conceived of his invention by using what he called the "poor boy FEA" in which he visually compared color differentials between different wedges. Ex. J (Rutledge Dep. 6/28/18) at 49:2-22. But nowhere is this technique disclosed in the '951 or '757 patents and, as Mr. Rutledge admitted, this technique was not one used by others in the field. Ex. K (Rutledge Dep. 1/22/19) at 29:5-14. As such, those in the art would not have been aware of Mr. Rutledge's personal approach in ascertaining the meaning of the claims.

<u>Controlling Legal Authority Mandates An Invalidity Finding</u>: Under *Nautilus*, *Teva*, and *Dow*, the '951 and '757 patents' failure to teach <u>any</u> <u>way</u> to ascertain or measure "compressive forces" is fatal. The '951 and '757 patents do not provide guidance as to the type of forces a skilled artisan should measure or the methods he should use to measure them. Thus the patents provide no method of ascertaining the claim scope. *See*, Ex. C (Crichlow Invalidity Report) at ¶¶ 335, 697. Moreover, the inventor concealed his approach from the public and his approach was admittedly

not established or well-known. Under these circumstances, the ’951 and ‘757 patents are indefinite as a matter of law. *See Teva*, 789 F.3d at 1344-45 (“‘[M]olecular weight’ or average molecular weight can be ascertained by any of three possible measures: M_p, M_n, and M_w. The claims do not indicate which measure to use. The specification never defines molecular weight or even mentions M_p, M_w, or M_n. And the term ‘average molecular weight’ does not have a plain meaning to one of skill in the art.”); *Dow*, 803 F.3d at 633-35.

B. Potential Techniques for Measuring “Compressive Forces” Require Judgment Calls and Yield Conflicting Results

There is no dispute that there are multiple approaches that one skilled in the art can use to assess whether “compressive forces” at the closed end are greater than at the open end. *See* Ex. H (Hetmaniak 12/3/18 Suppl. Infringement Report) at p. 5 (acknowledging that Dr. Crichlow’s approach is “one way of examining forces in FEA results,” but arguing that a different approach should be used). Choosing requires one skilled in the art to make judgment calls on myriad factors, including what kind of test or analysis to use, which parameters to focus on, and how to analyze those parameters. No one established method exists, and the inventor chose not to disclose his personal approach. As a result, the ‘951 and ‘757 patents offer no guidance in making these selections, and they leave the public guessing on how to implement its teaching and where the boundaries of the claims lie.

In this litigation alone, no less than four different approaches have been used between the inventor and the experts[4] to identify and measure the “compressive forces” on the wedges in an

[4] Defendants do not concede that any of the measurement approaches employed by Rutledge or Superod’s expert, Mr. Hetmaniak, are appropriate or scientifically valid. Indeed, Dr. Crichlow has identified flaws in Mr. Hetmaniak’s approaches, not the least of which is that Mr. Hetmaniak did not perform his analysis using data for the actual products at issue in this case. However, for purposes of summary judgment, in viewing the evidence in a light most favorable to the Plaintiffs,

end fitting, which are:

1. Analyzing deformation based on a stress profile[5] from an FEA analysis. Ex. D (Hetmaniak 8/10/18 Infringement Report) at p. 21.

2. Analyzing *average* radial compressive forces from an FEA analysis. Ex. H (Hetmaniak 12/3/18 Suppl. Infringement Report) at pp. 9-10; *see also* Ex. E (Hetmaniak 2/22/19 S300 Infringement Report) at pp. 23-26 (analyzing "average nodal forces"[6]).

3. Analyzing *total* radial compressive forces from an FEA analysis. Ex. F (Crichlow Non-Infringement Report) at ¶¶ 81-90; Ex. I (Crichlow 3/8/19 Suppl. Non-Infringement Report) at ¶¶ 47-52.

4. Eye-balling color variations in a physical end fitting (i.e. Rutledge's so-called "poor-boy FEA"). Ex. J (Rutledge Dep. 6/28/18) at 49:2-22.

The record reflects that the different techniques undoubtedly yield different conclusions. For instance, the data shows that, in the same end fitting, the stresses can be greater at the open end while at the same time the "average nodal forces" are lowest at the open end. *Compare* Ex. E (Hetmaniak 2/22/19 S300 Infringement Report) at pp. 23-24 (stating that "average nodal forces" for an end fitting are greater at the closed end) with Ex. I (Crichlow 3/8/19 Suppl. Non-Infringement Report) at ¶ 53 (reporting that stresses for the same end fitting are lowest at the closed end).

Likewise, completely opposite results are reached depending on whether one considers the

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Defendants do not dispute whether one skilled in the art would consider Mr. Hetmaniak's approaches as potential options for measuring "compressive forces."

[5] Mr. Hetmaniak does not actually specify which stresses he was analyzing. However, as Dr. Crichlow explains, the FEA results appear to show von Mises stresses, which depict the impact from the overall multi-dimensional stresses that the end fitting is subjected to, and are different from radial compressive forces. Ex. F (Crichlow Non-Infringement Report) at ¶¶ 92-94, 153.

[6] Mr. Hetmaniak's February 22, 2019 report, which was directed to the Series 300 device, does not state whether "average nodal forces" refers to the average of radial compressive forces, axial compressive forces or something else. *See* Ex. I (Crichlow 3/8/19 Suppl. Non-Infringement Report) at ¶ 47. Accordingly, it is not clear whether Mr. Hetmaniak is using that same approach as in his December 3, 2018 report, or yet another different technique.

average forces along each wedge as opposed to the total forces along each wedge. *Compare* Ex. H (Hetmaniak 12/3/18 Suppl. Non-Infringement Report) at pp. 9-10 (reporting that average radial compressive forces for the Series 200 end fitting are greatest at the closed end) with Ex. F (Crichlow Non-Infringement Report) at ¶¶ 88-90 (reporting that total radial compressive forces for the Series 200 end fitting are lowest at the closed end).[7]

Because the patents do not provide guidance on which of the various conflicting methods to use, the claims are indefinite as a matter of law. *See, e.g.*, *Dow*, 803 F.3d at 634 (holding claims indefinite because of "the existence of multiple methods leading to different results without guidance in the patent or the prosecution history as to which method should be used.").

C. No Genuine Disputes Between Experts Exist That Preclude Summary Judgment

Superod appears to argue that, notwithstanding the lack of guidance in the patents, one skilled in the art would understand the "compressive force" limitations. Superod's expert, Mr. Hetmaniak, opines - without citation to any intrinsic or extrinsic evidence - that the "compressive force" limitations "would be easily known and understood by a POSITA when examining the claims" and that a "POSITA would have an understanding of the interactions of the sucker rod components and the relative loading between them in the function of the sucker rod." Ex. L (Hetmaniak Rebuttal Invalidity Report) at pp. 48-49, 58. Tellingly, however, Mr. Hetmaniak never discusses the possible choices that one skilled in the art would need to select among in attempting to measure the "compressive forces" and determine whether those forces are greatest at the closed end of the end fitting. Mr. Hetmaniak's unsupported opinions should be given no weight. *See On-*

[7] Rutledge never disclosed or provided evidence from his "poor-boy FEA" technique, and so it is not possible to directly compare the results of his approach to those used by the parties' experts in this litigation.

Line Tech. v. Bodenseewerk Perkin-Elmer, 386 F.3d 1133, 1144 (Fed. Cir. 2004) ("[C]onclusory assertions by expert witnesses are not sufficient to avoid summary judgment.").

That Mr. Hetmaniak may believe his method(s) to be appropriate is also immaterial. The Federal Circuit explained that while "[b]efore *Nautilus*, a claim was not indefinite if someone skilled in the art could arrive at a method and practice that method," but "[u]nder *Nautilus* this is no longer sufficient." *Dow*, 803 F.3d at 634. Rather, the patents must "inform those skilled in the art about the scope of the invention with ***reasonable certainty***." *Nautilus*, 572 U.S. at 910-11 (emphasis added) ("It cannot be sufficient that a court can ascribe *some* meaning to a patent's claims; the definiteness inquiry trains on the understanding of a skilled artisan at the time of the patent application, not that of a court viewing matters *post hoc*."). This is especially true where, as here, the "[expert's] chosen method was not even an established method but rather one developed for this particular case." *Dow*, 803 F.3d at 635 ("[A] claim term is indefinite if it 'leave[s] the skilled artisan to consult the "unpredictable vagaries of any one person's opinion"'" (citation omitted)).

Accordingly, Mr. Hetmaniak's conclusory opinion that those in the art would "understand" the claims is without effect and fails to create a genuine dispute. For the reasons above, the '951 and '757 patents fail provide any guidance, let alone reasonable certainly, as to how to measure the claimed "compressive forces." Consequently, the claims are invalid as indefinite.

V. CONCLUSION

For the reasons above, this Court should grant Defendants' Motion for Summary Judgment and find that the claims of the '951 and '757 Patents are invalid because their "compressive forces" limitations are indefinite.

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CERTIFICATE OF SERVICE

I hereby certify that on April 4, 2019 a copy of the foregoing was served on counsel of record by electronic means pursuant to the court's Electronic Case Filing (ECF) system:

/s/ *Bradley Bains*